

WORKING GROUP ACTIVITY REPORT

Date: June 27th, 2001

- ARAC Issue Group: Transport Airplanes and Engines
- Working Group Name: Flight Guidance System HWG
- Task Title:

25.1329/25.1335 - Automatic Flight Control and Guidance
System Requirements Harmonization and Technology
Update
- Task Description

Review 25.1329/1335, JAR paragraphs 25.1329/1335 plus material contained in NPA 25F-243 in addition to Sec. 121.579 and the associated Advisory Circular 25.1329-1 and ACJ 25.1329. Update and harmonize the Part 25 sections and the associated guidance material, in the light of the review of regulatory materials, current certification experience, and changes in technology and system design.

Review recommendations that stem from recent transport aviation events and relate to crew error, cockpit automation and in particular, automatic flight control/guidance made by the NTSB, the FAA Human Factors Team, and the JAA Human Factors Steering Group. Make any proposed amendments to Sections. 25.1329/25.1335 and advisory materials that are needed to resolve these recommendations.
- Expected Product(s) NPRM ✓ AC ✓ Other ✓
 - Proposal for revisions to the Flight Test Guide

TAE June 2001 Handout 26
Handout 26

- **Status & Schedule:**

Status

There have been an Editor's meeting and a Plenary meeting since the last report to TAEIG. The proposed 25.1329 Rule is complete. Draft 13 of the AC/ACJ was produced to support the plenary meeting held during the week of June 7th in Seattle. Ninety-five comments were received on this draft. Approximately 80% of the comments were addressed during the June meeting. The intent is for the editors to address the remaining 20% before the next draft is produced.

A new Section 14 dealing with COMPLIANCE DEMONSTRATION USING FLIGHT TEST AND SIMULATION was developed for the Plenary meeting. This section starts to address the long-standing issues relating to methodologies to address minimum engage altitude and minimum use height of the FGS. The new section is intended to address the handoff between the airworthiness assessment process and operational need for information to conduct in-service operations. The group intends to work the development of this section consistent with our current schedule but completing this section is a risk to meeting the current schedule.

A Minority Opinion Form was developed and shared with the group to support the closure process (attached). One possible Minority Opinion has been identified.

There has been dialog within the group relating to the need for data to support the economic assessment - but little feedback has been received to date. An Applicability Form has been developed (attached) to facilitate the generation of this data.

Action - The group requests that the industry members of TAEIG consider whether transmitting this form, with the latest draft of the Rule and AC/ACJ to its members, would be a meaningful way of developing the necessary data from a representative cross-section of industry.

Future Plans

Draft 14 of the AC/ACJ will be provided to the group on June 29th. An Editor's meeting will be held August 21st through 23rd. Section 14 will be worked by e-mail between now and the Editor's meeting. Comments and any Minority Opinions on Draft 14 are due in by August 10th. A draft 15 will be produced after the editors meeting. The intent is that Draft 15 will be the 'Final' draft version. A meeting is scheduled for the week of September 24th to finish any last minute items and produce the product for TAEIG – Version 16.

A provisional meeting date for December has been established as a back up should Section 14 or other items need additional time to complete.

Schedule

Date	Meeting type	Location	Comment
April 9-11, 2001	Editors	Gatwick	Leading to Draft 13
April 23 week	Select editors	Seattle	Section 14
May 4, 2001			Draft 13 distributed to HWG & Tech editor
			Tech editor to prepare reformatized Draft 13 to begin Plenary, as basis of draft 14
June 4, 2001	Plenary	SEA	Work on minor preparation of Draft 14 <ul style="list-style-type: none"> ○ Use of technical agreement ○ Identify minority opinions ○ WG Report & discuss ○ Appendix A
June 8, 2001	Editors	SEA	Clean up material for Draft 14
June 11, 2001	John Ackland		Distribute Section 14
June 26-27, 2001			TAEIG meeting
June 29, 2001			Distribute ACJ Draft 14 to HWG
July 6, 2001	All members		Comments due on Section 14, MUH/MEA
August 10, 2001			Final Comments on due on Draft 14 Minority Opinions Documented
August 21-23, 2001	Editors	Williamsburg, VA	Leading to Draft 15 [Final]
August 27, 2001			Draft 15 distributed to HWG with ballot
September 24-27	Plenary	Rochester, UK	Disposition of ballot comments "Final" technical agreement
September 28	Editors	Rochester, UK	Prepare Version 16
December 3-6	Plenary	PHX	Final final technical agreement

FGS MO#.....

FGSHWG Minority Opinion

The Flight Guidance Harmonization Working Group [FGSHWG] was chartered to produce proposed revisions to FAR/JAR 25.1329 and the associated AC/ACJs. The FGSHWG has made a best effort attempt to reach consensus on all issues. This document identifies a Minority Opinion that has been expressed following the consensus building process.

Originator:

Affiliation:

Summary of Issue:

Rule or AC/ACJ Reference(s):

Discussion:

Recommendation:

Signature: _____

Date: _____

Applicability Considerations

The Flight Guidance Harmonization Working Group [FGSHWG] has produced proposed revisions to FAR/JAR 25.1329 and the associated AC/ACJs. These proposed revisions establish revised regulatory standards for Flight Guidance Systems and acceptable means of compliance with those standards. The applicability of the new standards is likely to have operational, manufacturing and economic impacts on operators, airplane manufacturers and equipment suppliers. The intent of this form is to collect various perspectives, opinions and data on the impact of introducing the revised Rule and AC/ACJ.

Applicability Scenarios:

Following regulatory promulgation of the Rule, it can be assumed that the Rule becomes applicable for:

1. An application for new airplane Type Certification (TC)
2. A Major Change to a current airplane type by STC or Amended Type Certification

Benefits:

The Benefits associated with the proposed rule change are primarily related to improvements in safety by addressing perceived vulnerabilities identified in service. The acceptable means of compliance criteria has been revised consistent with the changes in the Rule and attempts have been made to standardize on industry best practices. Some of these best practices are an attempt to minimize human error and confusion in operation of Flight Guidance Systems.

Costs:

As part of the Rule-making process, the costs associated with the Rule change need to be established. The remainder of this form is intended to provide a forum for end user's to document the impact of the Rule change on their business.

Company:

Type of Business:

General Comments on the Proposed Rule-making action:

General Comment on the Impact of the Rule Change:

- What more-- or what less -- will have to be done if this rule is issued?

Associated Costs:

What is the cost impact of complying with the proposed regulation? Consider:

- The differences (in general terms) between current practice and the actions required by the new rule?
- Are new tests or designs are required, how much time and costs would be associated with them?
- If new equipment is required, what are projected purchase, installation, and maintenance costs?
- Does the proposed rule relieve industry of testing or any other costs, please provide an estimate of any such costs.

NOTE: "Cost" does not have to be stated in terms of dollars; it can be stated in terms of work-hours, downtime, etc. Include as much detail as possible.)

Other Considerations:

- Are small businesses affected?
(In general terms, "small businesses" are those employing 1,500 people or less. This question relates to the Regulatory Flexibility Act of 1980 and the Small Business Regulatory Enforcement Fairness Act of 1996.)
- Will the proposed rule require any new or additional record keeping? If so, explain.
[This question relates to the Paperwork Reduction Act of 1995.]
- Will the proposed rule create any unnecessary obstacles to the foreign commerce of the United States -- i.e., create barriers to international trade?

[This question relates to the Trade Agreement Act of 1979.]

- Will the proposed rule result in spending by State, local, or tribal governments, or by the private sector, that will be \$100 million or more in one year?

[This question relates to the Unfunded Mandates Reform Act of 1995.]

- Other

